

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 - 41. (Canceled)

42. (Currently Amended): An ANT1 adenine nucleotide translocator polypeptide having at least 95% identity to the amino acid sequence set forth in SEQ ID NO:31, produced by a method comprising culturing a host cell comprising a recombinant expression construct comprising at least one regulated promoter operably linked to a nucleic acid encoding the ANT1 adenine nucleotide translocator polypeptide.

43. (Currently Amended): An isolated recombinant human ANT1 adenine nucleotide translocator polypeptide or a variant thereof, wherein said polypeptide has an amino acid sequence set forth in SEQ ID NO:31, and wherein said variant has at least 95% amino acid sequence identity to the sequence set forth in SEQ ID NO:31.

44. (Canceled): The isolated polypeptide of claim 43 wherein the human ANT1 adenine nucleotide translocator polypeptide is recombinant ANT1 or a variant or fragment thereof.

45 - 46. (Canceled)

47. (Currently Amended): An isolated human ANT1 adenine nucleotide translocator fusion protein comprising an ANT1 adenine translocator polypeptide fused to at least one additional polypeptide sequence, wherein said ANT1 adenine translocator polypeptide has at least 95% amino acid sequence identity to the sequence set forth in SEQ ID NO:31.

48. (Original): The fusion protein of claim 47 wherein said one additional polypeptide sequence is an enzyme sequence or a variant or fragment thereof.

49. (Original): The fusion protein of claim 47 wherein said fusion protein localizes to membranes.

50. (Original): The fusion protein of claim 49 wherein said membranes are mitochondrial membranes.

51. (Currently Amended): An isolated human ANT1 adenine nucleotide translocator fusion protein comprising an ANT1 adenine translocator polypeptide fused to at least one additional polypeptide sequence cleavable by a protease, said ANT1 adenine nucleotide translocator polypeptide being separable from the fusion protein by cleavage with the protease, wherein said ANT1 adenine translocator polypeptide has at least 95% amino acid sequence identity to the sequence set forth in SEQ ID NO:31.

52. (Previously Presented): An isolated ANT1 adenine nucleotide translocator fusion protein comprising a first polypeptide that is an animal ANT1 adenine translocator polypeptide fused to at least one additional polypeptide sequence.

53. (Original): The fusion protein of claim 52 wherein said one additional polypeptide sequence is an enzyme sequence or a variant or fragment thereof.

54. (Original): A fusion protein according to claim 52 that localizes to membranes.

55. (Original): A fusion protein according to claim 54 wherein said membranes are mitochondrial membranes.

56. (Previously Presented): An isolated recombinant animal ANT1 adenine nucleotide translocator fusion protein comprising an ANT1 adenine translocator polypeptide fused to at least one additional polypeptide sequence cleavable by a protease, said ANT1 adenine nucleotide translocator polypeptide being separable from the fusion protein by cleavage with the protease.

57. (Original): The fusion protein of either claim 47 or claim 52 wherein the additional polypeptide sequence is a polypeptide having affinity for a ligand.

58 - 112. (Canceled)

113. (New): An isolated recombinant human ANT1 adenine nucleotide translocator polypeptide or a fragment thereof, wherein said polypeptide has an amino acid sequence set forth in SEQ ID NO:31 and wherein said fragment comprises at least 30 contiguous amino acid residues of the sequence set forth in SEQ ID NO:31.